



BUREAU OF WATERSHED MANAGEMENT
PROGRAM GUIDANCE
WATER EVALUATION SECTION

**TRIENNIAL STANDARDS REVIEW (TSR) PROCESS
FOR SURFACE WATER QUALITY STANDARDS & GUIDANCE
APRIL 22, 2008**

(Minor editorial changes made 6-19-2008)

[3200-2008-01]

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APPROVED:

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Triennial Standards Review (TSR) Process for Surface Water Quality Standards & Guidance

April 22, 2008

(Minor editorial changes made 6-19-2008)

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TSR PROCESS OVERVIEW

Every three years, the Wisconsin Department of Natural Resources (DNR) will review Wisconsin’s surface water quality standards and select specific standards or related guidance for development or revision. This comprehensive evaluation, called the Triennial Standards Review, is required by the federal Clean Water Act and is an essential process to keep Wisconsin's waters swimmable, fishable, drinkable and suitable for use by industry, agriculture and the citizens of the state. This review will help focus DNR efforts to integrate the latest science and technology and federal requirements into how the State regulates surface water quality. In addition, it will assist the Department with its workplanning process and with identifying needed actions for moving projects forward. The Triennial Review process will be carried out in two phases:

Phase 1: Generate a prioritized list of standards for review

- Compile potential topics ¹
- Internal ranking
- Public ranking
- Finalize prioritized list

Phase 2: Revise or develop each selected surface Water Quality Standard or guidance

- Internal revision or development
- Advisory Committee (if needed)
- Legal and administrative approval
- ▶ *If rulemaking is not needed, adopt revisions.*
If rulemaking is needed, continue through rulemaking process.
- Natural Resources Board (NRB) approval for public hearings
- Public comment & revisions (if needed)
- Legal and administrative approval
- NRB adoption of revised rule
- Legislative review
- Adopt revised Rule
- Submit report to EPA on all revisions during the triennium

¹ In this document, the term “*topic*” refers to potential standards or guidance for review while “*project*” corresponds to standards or guidance selected for revision.

FLOW CHARTS: PHASES 1 & 2

Figure 1. Phase I: Generate a Prioritized List of Standards and Guidance for Review

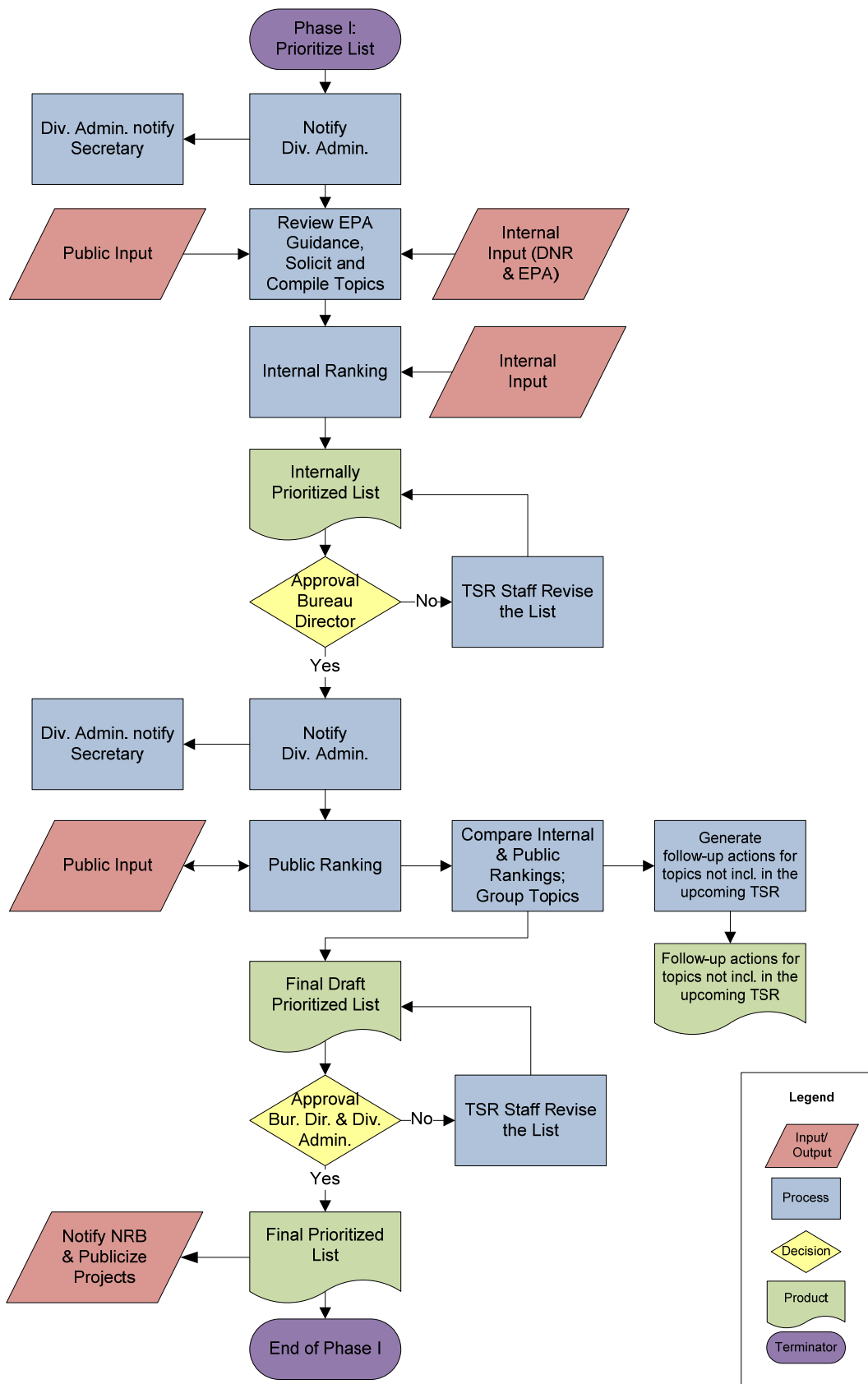
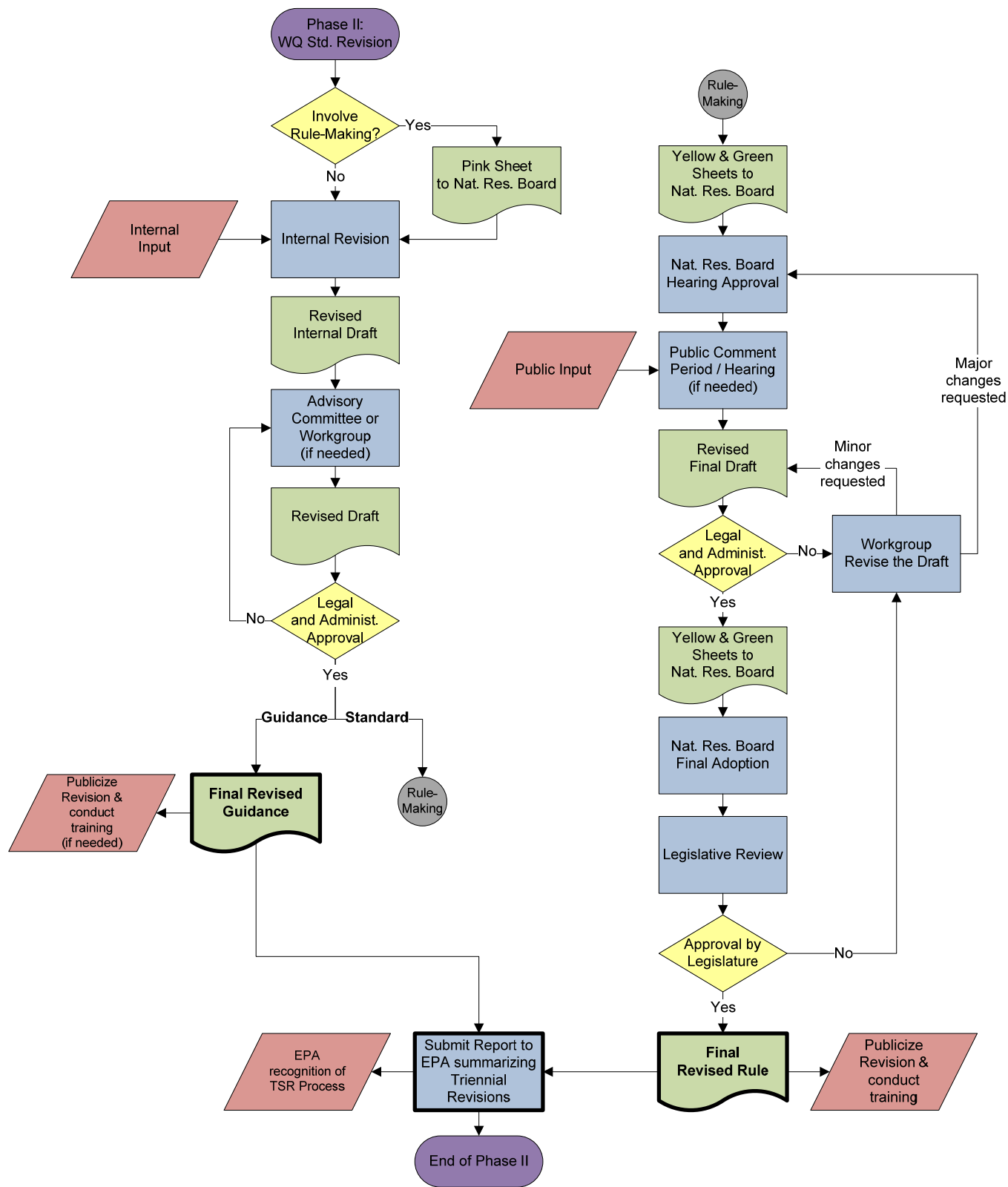
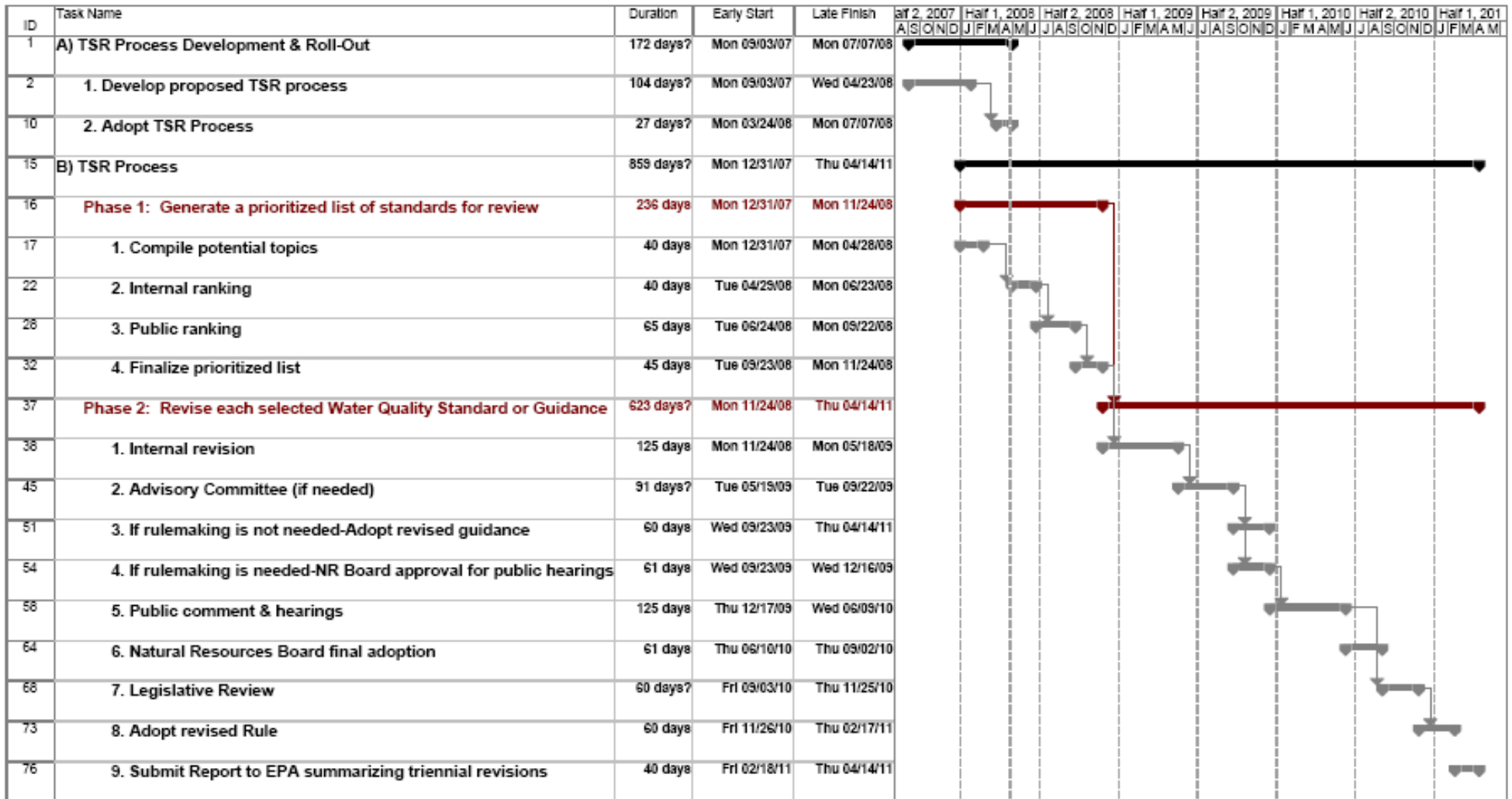


Figure 2. Phase 2: Revise each selected Water Quality Standard or Guidance



TIMELINE

The figure below is a condensed version of a more complex file in Microsoft Project, which details each task in the process. The timeline for Phase 1 will remain fixed during each triennial cycle. For Phase 2, each Project Lead will set individualized schedules for their projects, and can customize the MS Project file accordingly.



DETAILED PROCESS PLAN – TASKS, COMMUNICATIONS, AND STAFF

A) TSR Process Development & Roll-Out

Triennial Standards Review Process Development & Roll-Out					
Process Steps		Communications Needed	Timeline	Staff	
1	Develop proposed TSR process:				
	1.1	Convene TSR workgroup & TSR staff	Contact potential workgroup members	September (?) 2007	BDir./WESC
	1.2	Review & compare other states' processes	Contact other states' WQS leads	October	TSR staff
	1.3	Draft a proposed TSR process for Wisconsin and supporting materials		November	TSR staff
	1.4	Brief Bureau Director on proposed TSR process	Meet with Bureau Director	December 10	WESC/ TSR staff
	1.5	TSR Workgroup reviews proposal	TSR Workgroup meets	December 17	TSR workgroup
	1.6	Incorporate comments into proposal & update supporting materials		January 2008	TSR staff
	1.7	Brief WRPMT and EPA; incorporate any final changes	Meet with WRPMT and EPA	Jan/Feb	TSR staff
2	Adopt TSR Process:				
	2.1	Obtain approvals from Bureau Director & Div. Admin.	Meet with Bureau Director & Div. Admin.	March 24	WESC/ TSR staff
	2.2	Post info on internal website		Late April	TSR staff
	2.3	Begin internal prioritization process (See Phase 1, Step 1)	(See Phase 1, Step 1)	Late April	TSR staff
	2.4	Announce finalized process to the public and post on external website (do this after internal prioritization of the 2008-2011 cycle projects is completed, at the same time we solicit the public prioritization)	Email internal & external parties. Letters to stakeholders? Publish article in "DNR News" or "E-Digest"?	Early July	WESC/ TSR staff

B) TSR Process (Detailed Process Plan)

Note: Dates provided below are estimates for a standard triennial process. For the first year of the TSR implementation (2008), Phase 1 will begin with Step 2 (Internal Ranking). This is due both to time constraints in rolling out the TSR process and the number of currently ongoing projects.

Phase 1*: Generate a prioritized list of standards for review				
Process Steps		Communications Needed	Timeline	Staff
1	Compile potential topics:			
	1.1 Notify Div. Admin. of topic solicitation; Div. Admin. notify Secretary	Notify Div. Admin./ Div. Admin. notify Secretary	Jan.-March <i>(Step 1 skipped for the 2008 TSR cycle, see note above)</i>	
	1.2 Review all pertinent, recent EPA guidance; consult with EPA	Letter to EPA to request pertinent guidance		TSR staff
	1.3 Solicit topics from internal and external sources (PMTs, FH & DG Boards, SS Bureau, EPA, DHFS, public). Submittals must include justification for considering the topic.	Email PMTs, FH & DG Boards, SS Bureau, EPA, DHFS and external interest groups to solicit topics for review.		WESC/ TSR staff
	1.4 Compile topics received.			TSR staff
2	Internal ranking:			
	2.1 Conduct an internal ranking of proposed topics using specified prioritization criteria	Survey Water Basin Sup., legal counsel, EPA, FH & DG Boards, SS Bureau, DHFS	Late April	WESC/ TSR staff
	2.2 Tally scores received and calculate results		Late May	TSR staff
	2.3 Using the internally prioritized list, make a draft recommendation on where the threshold may be drawn for the upcoming cycle's priorities and the topics that will be held until next cycle; prepare a summary of the rationales supporting the internal priority list.	TSR Workgroup meets	Early June	TSR workgroup
	2.4 Approval of Bureau Director on internal priority list (Bur. Dir. may notify the Division Administrator if needed)	Meet with Bureau Director	Mid-June	WESC
	2.5 Notify Div. Admin. & Secretary of upcoming public ranking	Notify Div. Admin. & Secretary	Mid-June	
3	Public ranking:			
	3.1 Develop press release, stakeholder letter, public participation form, web content.		Late June	TSR staff
	3.2 Solicit public input on the draft prioritized list.	Press release. ("E-Digest", "DNR News"?) Send stakeholders the <i>Participation Form</i> .	Early July	TSR staff
	3.3 Tally information from public ranking into a public priority list.	Evaluate public feedback	September	TSR staff
4	Finalize prioritized list:			
	4.1 Compare internal and public rankings, create final prioritized list, and identify which topics will be included as potential projects in upcoming triennial cycle.	TSR Workgroup meets	September	TSR workgroup
	4.2 Determine follow-up actions needed for topics in Groups D & E.		Mid-Oct.	TSR wkgp
	4.3 Obtain approval from Bur. Dir. and Div. Admin.; notify NRB.	Meet with Bur. Dir. and Div. Admin.; send notice to NRB	Late Oct.	WESC
	4.4 Publicize projects selected for upcoming triennial review cycle.	Update fact sheets, website. Publish news release ("DNR News") Send letter/email to interested parties.	November	TSR staff/ WESC

Phase 2: Revise each selected Water Quality Standard or guidance				
Process Steps (create individual timelines for each selected project)		Communications Needed	Timeline	Staff
1	Internal revision or development:			
	1.1 Assign Project Lead			BDir./WESC
	1.2 Determine whether rulemaking will be needed. If so, submit Pink Sheet to NR Board if rulemaking is anticipated			Proj. Lead
	1.3 Establish internal workgroup and develop a schedule (including periodic progress reports)	Identify and contact potential workgroup members		Proj. Lead
	1.4 Research issue and prepare draft	Contact external parties as needed		Project workgroup
	1.5 Internal review of draft	Identify appropriate reviewers; email draft language to them		Supervisors, select staff
	1.6 Incorporate changes into draft as appropriate			Project workgroup
2	Advisory Committee (if needed):			
	2.1 If needed, establish and convene external Advisory Committee	Identify and contact potential AC members. Set meeting locations/dates. Consider news release ("DNR News").		Proj. Lead
	2.2 Revise draft language as appropriate			AC & Proj. workgroup
	2.3 Assess progress and modify schedule as needed	Notify affected parties of schedule changes		Proj. Lead
	2.4 Obtain legal and administrative approvals	Meet with legal counsel, Bureau Director, Division Admin. if needed		Proj. Lead
2.5 <i>(additional revisions & approvals if requested)</i>				
<i>If guidance is complete and rulemaking is not needed, complete Step 3 and go to Step 9. If rulemaking is needed, move to Step 4 and continue.</i>				
3	Adopt revised guidance:			
	3.1 Update all pertinent materials (guidance, web content, etc.)			Proj. Lead
	3.2 Disseminate revised standard and conduct training if needed	Notify internal & external parties. Conduct training if needed.		Proj. Lead

Phase 2 continued: Conduct formal rule-making process (if needed)				
Process Steps		Communications Needed	Timeline	Staff
4	Natural Resources Board approval for public hearings:			
	4.1	Prepare/submit Yellow & Green Sheets to request public hearings	Prepare Yellow/Green Sheets & all supporting materials	Proj. Lead
	4.2	Present rule package to NRB to request public hearings	Prepare NRB presentation & materials	Proj. Lead
	4.3	Obtain NRB approval to go to public hearings		Proj. Lead
5	Public comment & hearings:			
	5.1	Prepare materials needed for public comment (fact sheets, web content, presentations)		Proj. Lead/ workgroup
	5.2	Begin public comment period; Conduct public hearings	Publish public notice & "DNR News" article. Send stakeholder letters/emails.	Proj. Lead/ workgroup
	5.3	Respond to public comments; modify language as appropriate; produce final draft	Make comment responses available to public.	Proj. Lead
	5.4	Obtain legal and administrative approvals	Meet with legal counsel, Bureau Director, Division Admin., Secretary if needed	Proj. Lead
	5.5	<i>(additional revisions & approvals if requested)</i>		
6	Natural Resources Board final rule adoption:			
	6.1	Prepare/submit Yellow & Green Sheets to request final adoption & legislative review	Prepare Yellow/Green Sheets & all supporting materials	Proj. Lead
	6.2	Present rule package to NRB to request rule adoption	Prepare NRB presentation & all supporting materials	Proj. Lead
	6.3	NRB final rule adoption and approval to go to legislature		Proj. Lead
7	Legislative review:			
	7.1	Prepare and submit legislative packet		Proj. Lead
	7.2	Present to Legislature		Bureau Dir.
	7.3	<i>(additional revisions & legislative review as needed)</i>		
	7.4	Legislative approval of final revised rule		Legislature
8	Adopt revised Rule:			
	8.1	Update all pertinent materials (guidance, web content, etc.)		Proj. Lead
	8.2	Disseminate revised rule and conduct training if needed (internal & external)	Notify internal & external parties. Publish press release ("DNR News") Conduct training if needed.	Proj. Lead/ workgroup
9	Submit Report to EPA summarizing triennial revisions:			
	9.1	Submit report to EPA summarizing triennial revisions	Prepare report and submit to EPA	TRS wkgp
	9.2	Request recognition from EPA on the TSR Process	Send letter requesting recognition	TRS workgroup

PHASE 1: 2008 TOPIC LIST FOR INTERNAL PRIORITIZATION

Topics that are eligible for Triennial Standards Review include:

1. Surface Water Quality Standards that need revision or development
2. Guidance that delineates which Water Quality Standards apply in specific cases (e.g. stream classifications)
3. Guidance that provides direction on implementing a surface WQS

Topics already prioritized for upcoming triennial cycle (2008 – 2011)

The Department has identified eight potential Triennial Standards Review topics that will receive automatic high priority for review during the upcoming triennial cycle. These are:

Group A: Standards/guidance with revisions/development currently in process

1. Thermal standards & point source implementation procedures
2. Phosphorus water quality criteria
3. Toxic substance water quality criteria
4. Assessment Methodology
5. Use Designations – Process review

Group B: Standards/guidance that WDNR is already committed to addressing in the upcoming cycle

1. Antidegradation
2. Mercury variance
3. Outstanding & Exceptional Resource Waters (ORW/ERW) – Process review

Topics to be Ranked

In addition, the Department has identified another twenty-three potential triennial review topics that need to be ranked and prioritized. Internal ranking will be conducted by Basin Supervisors, the FH & DG Boards, SS Bureau, legal counsel, EPA, and DHFS. Once ranked, they will be sorted into the following groups, made available for public review and ranking, and a final list of topics (Groups A, B, and C) will be selected for triennial review during the 2008-2011 cycle. For those that remain in Groups D and E, a brief identification of any follow-up actions needed to move those topics forward in the future will be prepared.

Group C: Standards/guidance that are priorities for the upcoming cycle

Group D: Standards/guidance that should be revised/developed but are not priorities for the upcoming cycle

Group E: Standards/guidance where barriers to development currently exist

PHASE 1: 2008 TOPIC LIST FOR INTERNAL PRIORITIZATION (CONT.)

Topics to be ranked and sorted into groups are:

1. Use Designations - Implementation
2. Outstanding & Exceptional Resource Waters - Implementation
3. PFOS water quality criteria
4. PBDE water quality criteria
5. Use Attainability Analysis (UAA)
6. Impaired waters (303(d)) listing and delisting criteria
7. Whole Effluent Toxicity (WET)
8. Bacteria water quality standards
9. Blue-green algal toxin water quality criteria
10. Turbidity water quality standard
11. Dissolved oxygen water quality criteria
12. 5/10 BOD policy
13. Nitrogen water quality criterion
14. Pesticides water quality standards
15. Methylmercury water quality standard
16. Mixing zones
17. Biocriteria
18. General review of variances in NR 104
19. Implementation of narrative standards
20. Application of standards to nonpoint sources and storm water
21. Revisions to chlorides implementation rules
22. Wasteload allocations (Wisconsin & Fox Rivers)
23. NR 106.10 exemption for certain substances

PHASE 1: PRIORITIZATION CRITERIA

The following criteria are to be used in conjunction with the *Internal Ranking Worksheet*. These criteria will be used as a tool to assist the prioritization process. Other pertinent factors, including public input, will also be weighed in the final selection of topics for review during the upcoming cycle.

Criteria in Category I are to be ranked Yes/No. If Yes to any of these criteria, topic is automatically classified as High Priority unless otherwise noted.

I. Critical Factors

- Immediate action is needed due to health issues or emergency circumstances.
- Immediate action is needed due to urgent potential impacts to wildlife, fisheries or habitat.
- Immediately required by federal or state law.
- Immediately required due to legal action.

Criteria in Categories II o IV are to be ranked from 3 (highest) to 0 (lowest)

II. Ecological Relevance

The revision/development will substantially improve or significantly prevent degradation of Wisconsin waters for:

- Fish and aquatic life and aquatic habitat;
- Recreational uses (swimming, boating, etc.);
- Public Health & Welfare (drinking water, non-drinking water, fish consumption);
- Wildlife (terrestrial organisms dependent on aquatic life and surface waters).

III. Feasibility of Revision/Development

- Preliminary discussions underway.
- Funding is available to address this revision/development.
- Staff time & expertise are available to address this revision/development.
- Enough scientific or technologic knowledge is available to confidently revise the rule.
- Applicable federal or state guidance is available to support a revision/development.
- The revision/development is needed to conduct other Dept. programs or would increase consistency with these programs (implementation programs, TMDLs, permitting, etc.).

IV. External Influences

- Required by federal or state law, but not immediately.
- Legal actions (non-immediate) influence need for revisions/development.

Note: The public input is assured by the Public Ranking step (Phase I), which follows the Internal Ranking.

Category V is informational only, not ranked.

V. Time Frame (not ranked)

- Anticipated time frame needed to conduct the revision/development: short term (<2 yrs), medium term (2-5 yrs), long term (>5 yrs)

PHASE 1: INTERNAL RANKING WORKSHEET (original is an Excel file)

Internal Ranking WORKSHEET - Triennial Standards Review - WDNR Proposed Topics (p. 2)

Topics to be ranked:	I. CRITICAL FACTORS				II. ECOLOGICAL RELEVANCE				III. FEASIBILITY				IV. EXTERNAL INFLUENCES				V. Time frame (short, medium or long term)		Comments
	Immediate health issue/emergency	Urgent impacts to wildlife/fisheries/habitat	Required immediately by Fed/State law	Required immediately due to legal action	Will improve or prevent degradation WQ for:	Fish & aquatic life and habitat	Recreational uses	Public Health & Welfare	Wildlife	Preliminary discussions underway	Funding available	Staff/expertise available	Scientific/tech knowledge available	Federal or State guidance available	Needed by/increases consistency with other programs	Required by fed./state law (non-immediate)	Legal action (non-immediate)		
Use Designations - Implementation																			
Outstanding & Exceptional Resource Waters - Implementation																			
PFOS Water Quality Criteria																			
PBDE Water Quality Criteria																			
Use Attainability Analyses (UAA)																			
Impaired Waters (303(d)) Listing Criteria																			
Whole Effluent Toxicity (WET)																			
Bacteria Water Quality Standards																			
Blue-Green Algal Toxin Water Qual. Criteria																			
Turbidity Water Quality Standard																			
Dissolved Oxygen Water Quality Criteria																			
5/10 BOD Policy																			
Nitrogen Water Quality Criterion																			
Pesticide Water Quality Standards																			
Methylmercury Water Quality Standard																			
Mixing Zones																			
Biocriteria																			
General review of variances in NR 104																			
Implementation of narrative standards																			
Applicability of standards to nonpoint sources & storm water																			
Revisions to chlorides implementation rules																			
Wasteload allocations for WI & Fox Rivers																			
Exemption for certain substances (NR 106.10)																			

RANKING CODES:

Y = Yes
N = No

3 = High or Yes
2 = Medium or Likely
1 = Low or Not Likely

0 = No
NA = Not Applicable
UK = Unknown

Short = <2 yrs
Med. = 2-5 yrs
Long = > 5 yrs

PHASE 1: INTERNAL RANKING WORKSHEET, CONT. (original is an Excel file)

Internal Ranking WORKSHEET: Triennial Standards Review - WDNR Proposed Topics (p. 1)

Worksheet Instructions:

Supervisors should work with appropriate staff to complete applicable portions of the table below.

1. For background information, refer to **topic descriptions** in "*Potential Triennial Review Topics*", and criteria descriptions in "*Prioritization Criteria for Triennial Standards Review*".
2. Rank **only** those topics you or your staff are familiar with enough to make a judgement on most of the criteria listed. If you are unsure on how to rank a criteria, leave the box blank.
 - 2A. Fill out the **Critical Factors** category with "**Yes**" or "**No**" (Y/N). Topics that receive a "Yes" for any of the Critical Factor criteria will automatically receive High Priority, unless otherwise noted.
 - 2B. Rank each of the criteria in the **Ecological Relevance**, **Feasibility**, and **External Influence** categories from **3** to **0** (see Ranking codes below).
 - 2C. Indicate the estimated amount of time the review/revision process is likely to take for each topic (short, medium or long term; see Ranking codes below).
3. The Triennial Standards Review workgroup will compile internal DNR respondents' results and create a draft prioritized list. The draft list will be sent to external interested parties for feedback.

The topics identified in Groups A and B have already been determined to be high priorities for the upcoming triennial cycle. These do not need to be ranked and are not included in the worksheet below.

Group A: Standards/guidance with revisions/development currently in process

- Thermal standards & point source implementation procedures
- Phosphorus water quality criteria
- Toxic substance water quality criteria
- Assessment Methodology
- Use Designations - Process revision

Group B: Standards/guidance WDNR is already committed to working on during upcoming cycle

- Antidegradation
- Mercury variance
- Outstanding/Exceptional Resource Waters - Process revisions

The remaining topics in the table below have been nominated for revision/development and should be ranked using the identified prioritization criteria. After the ranking process, they will be sorted into the following categories:


Group C: Standards/guidance that are a priority for upcoming cycle

Group D: Standards/guidance that should be revised but are not a priority for upcoming cycle

Group E: Standards/guidance where barriers to development currently exist

PHASE 1: PUBLIC RANKING PROCESS & FINALIZATION OF THE PRIORITIZED LIST

After the internal ranking process, this form will be used along with the list of internally prioritized topics and corresponding rationales supporting the prioritization, and topic descriptions to solicit feedback on the internally ranked list and determine what topics the public sees as priorities. The results of the public survey will be compiled into a list of public priorities, which will then be used to inform the DNR during its final selection of priority topics for review during the upcoming triennial cycle.



Keeping Wisconsin's Waters Swimmable, Fishable, Drinkable and Workable

2008-2011 Triennial Review

Participation Form
Please answer the following questions to help us learn your thoughts about water quality in Wisconsin and how we might best proceed in achieving a balanced review process.

Name _____ Phone _____
Organization _____ Email _____
Mailing Address _____ City/Zip _____

1. Of the potential topics, rank your top three choices and list why they are important. For more information on each topic, visit our website at <http://dnr.wi.gov/org/water/wm/wqs/>.

First (Highest) Priority Topic _____
Why? _____

Second Priority Topic _____
Why? _____

Third Priority Topic _____
Why? _____

2. Are you interested in participating further regarding the topics you have chosen above?
Yes ___ No ___ If yes, what topics? _____

What is your experience related to these topics? _____

If you have additional comments, please attach additional pages. Direct questions and return completed forms to:

Water Evaluation Section Chief WI DNR, WT-3 P.O. Box 7921 Madison, WI 53707-7921	Email: TSR@wisconsin.gov Fax: (608) 267-2800 Ph: (608) 267-7662
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Form revised 3/27/2008

PHASE 1: 2008 TOPIC DESCRIPTIONS

Note: Data and monitoring needs specific to each topical area described below will be identified in accordance with each topic’s assigned schedule.

Group A: Standards/guidance with revisions/development currently in process

1. Thermal Standards & Point Source Implementation Procedures: Revisions are being made to NR 102 (Water Quality Standards) and NR 106 (Point Source Implementation Procedures) to manage the discharge of heated water to surface waters. Wisconsin's current standards were ruled invalid by the Wisconsin Supreme Court in 1979. This effort is necessary to correct the problems that led to that ruling and to allow effluent limitations for heat to be included in permits where hot water discharges may adversely impact fish and other aquatic life. Public hearings on draft rules were held in January 2008. Adoption of rule revisions anticipated in late 2008.

Related Rules: NR 102 Water quality standards for Wisconsin surface waters
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
 NR 209 Thermal effluent limitations modification procedures

2. Phosphorus Water Quality Criteria: In 2000, EPA published guidance on nutrient criteria for lakes and streams that requires states to promulgate the criteria as part of their surface water quality standards. If states do not promulgate the criteria, EPA has the authority to promulgate the criteria for the state. Wisconsin has experienced significant nutrient related water quality problems including nuisance Cladophora accumulations on the shores of Lake Michigan, toxic algal conditions in a number of inland lakes, and low dissolved oxygen levels in certain streams. Extensive research and monitoring to establish quantitative phosphorus water quality standards has been conducted. A group of Department scientists and outside experts have reviewed and analyzed the data and have proposed draft criteria. The Department is currently preparing draft rule language to establish phosphorous water quality criteria and will establish an external advisory panel of stakeholders to review and comment on the draft. Intentions are to seek authorization for public hearings from the Natural Resources Board in Summer 2008. Implementation of this rule, including potential provisions for implementing phosphorus-based TMDLs, will be a key discussion item for the external advisory committee.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
 NR 60 Public Inland Lake Protection and Rehabilitation
 NR 151 Runoff Management
 NR 212 Waste Load Allocated Water Quality Related Effluent Limitations
 NR 216 Storm Water Discharge Permits
 NR 217 Effluent Standard and Limitations
 NR 243 Animal Feeding Operations

3. Toxic Substance Surface Water Quality Criteria: Revisions to Chapter NR 105 are necessary to synchronize Wisconsin's toxic substance criteria for 17 pollutants with federal criteria promulgated by U.S. EPA. Proposed revisions for four of the substances – copper, endrin, nickel, and selenium – are intended to provide appropriate protection of fish & aquatic life species. Proposed revisions for the

remaining substances are intended to provide protection for human health. The Natural Resources Board approved public hearings in October 2007. Three public hearings were held in January 2008.

Related Rule(s): NR 105 Surface water quality criteria for toxic substances

- 4. Assessment Methodology:** To comply with section 303(d) of the Clean Water Act and associated federal regulations, every other year each state must develop a list of impaired waters (i.e. waters not meeting surface water quality standards). EPA requires each state to provide a listing methodology. In addition, EPA is requiring each state to integrate its 305(b) water quality assessment and its 303(d) listing into a joint report. In response, the Department is working to revise its assessment methodology, will not only be used for listing and reporting purposes, but will also propose a revised system of assigning use designations for surface waters and associated decision criteria to determine whether or not those uses are being attained. Decisions made from this new system will increase public understanding of the Department’s water quality management efforts and will result in better decision making for several Clean Water Act program elements, including WPDES permitting, development of the biennial *Impaired Waters List*, and submittal of the Water Quality Report to Congress [305(b)]. A group of department staff have established recommendations for changes to the Department’s existing procedures and have solicited comments from other staff. A final report of recommendations will be completed in 2008 and an internal *ad hoc* team will be formed to begin addressing implementation issues, including need for revisions to Administrative Rules.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 104 Uses and designated standards and secondary values

- 5. Use Designations – Process Revision:** Federal law requires states to assign a use designation to surface waters in order to determine the water quality goals for those water bodies. Wisconsin has assigned uses for: a) General Use, b) Fish & Other Aquatic Life Use; c) Public Health & Welfare Use, d) Recreational Use; and e) Wildlife Use. Perspectives on the conditions associated with each of those use designations vary widely between different affected groups, including regulated entities, environmental advocates, and the general public. This has led to significant confusion about Wisconsin’s water quality management objectives and has created conflicts in the expectations of the DNR among those many constituents. In response, DNR initiated an internal effort to re-design its use designations to be ecologically and scientifically defensible, understandable to affected parties, and supported by well designed monitoring initiatives. When complete, these recommendations may directly affect provisions of several administrative rules, policies, and procedures as they apply to implementation of the Clean Water Act in Wisconsin.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 104 Uses and designated standards and secondary values
 NR 207 Water quality antidegradation
 NR 210 Sewage treatment works

Group B: Standards/guidance that WDNR is already committed to addressing during the upcoming cycle

- 1. Anti-degradation:** Several challenges have been presented to the Department and U.S. EPA suggesting that Wisconsin’s administrative rules and implementation procedures should be revised. The Department has initiated discussions acknowledging that revisions to policies and procedures may be needed. Limited discussion with the US Environmental Protection Agency (EPA) has occurred regarding the adequacy of the states anti-degradation provisions and authority. The Department is considering its options regarding this issue and will proceed once a decision is made and resources are available.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
NR 207 Water quality antidegradation

- 2. Mercury Variance:** Concerns have been expressed by some groups regarding the consistency of Wisconsin’s mercury variance procedures with federal guidance. The Department has submitted its administrative rule for mercury variance procedures to EPA for review and approval. Once an EPA decision is received, the Department will act appropriately to the EPA determination.

Related Rule(s): NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

- 3. Outstanding & Exceptional Resource Waters – Process Revision:** Federal law requires states to identify and protect “High Quality Waters.” In Wisconsin, these waters are referred to as Outstanding or Exceptional Resource Waters and they are enumerated in sections NR 102.10 and NR 102.11, respectively. Waterbodies that are assigned the special designation as O/ERW have additional protections afforded them that are not automatically provided for non-O/ERW water bodies. Recent citizen petitions to consider expansion of the list of O/ERWs begs the question of whether or not DNR should standardize the decision process for O/ERW designation. Note: This activity is closely connected to the Assessment Methodology project.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
NR 207 Water quality antidegradation

Topics to be Ranked and Sorted into Groups C, D, and E

1. Use Designations – Implementation: Pending the outcome of the process redesign, the Department may initiate a review of codified Use Designations.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 104 Uses and designated standards and secondary values

2. Outstanding & Exceptional Resource Waters – Implementation: Pending the outcome of the process redesign, the Department may initiate a review of codified Outstanding and Exceptional Resource Waters.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 207 Water quality antidegradation

3. Perfluorinated Surfactants Water Quality Criteria: Perfluorooctanesulfonates (PFOS) are persistent organic pollutants that are exceptionally stable in the environment. PFOS was a key ingredient in Scotchgard, a widely used fabric protector, as well as a number of other stain repellents. In recent years, low levels of perfluorinated chemicals, especially PFOS and perfluorooctanoic acid (PFOA) were found in the environment, particularly in wildlife and human samples. In fact, WDNR staff have detected these substances in the Mississippi River system. These substances have shown the potential to adversely affect reproduction and cause cancer in animal experiments. A comprehensive review of the toxicity of PFOS and PFOA should be initiated to determine if water quality criteria should be calculated for the protection of humans and fish and other aquatic life.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 105 Surface water quality criteria for toxic substances
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

4. PBDE (Polybrominated diphenyl) Water Quality Criteria: Increasing concentrations of polybrominated diphenyl ether (PBDE) have been detected in recent years in air, sediment, surface water, fish, birds, and in human blood. PBDEs have been widely used as flame retardants in plastics, textiles, and furniture since the 1960s. It is a well established fact that PBDEs bioaccumulate in both aquatic and terrestrial organisms (including humans) in the Great Lakes region, but little is known about the toxicity of these compounds. A recent WDNR study showed that some PBDE congeners may be toxic to aquatic life in the low ppb concentration range. The WDNR study also established that effluents and sediments may act as sources of PBDEs to Lake Michigan albeit at very low concentrations. Regardless, because of the potential for bioaccumulation and the fact that PBDEs are still in the North American wastestream having been used in many products currently in use, it is possible that concentrations of PBDEs in the environment and in organisms will continue to rise for the foreseeable future. With this in mind, a comprehensive review of the toxicity of PBDEs should be initiated to determine if water quality criteria should be calculated for the protection of humans and fish and other aquatic life.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 105 Surface water quality criteria for toxic substances
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

- 5. Use Attainability Analyses (UAA):** The Code of Federal Regulations (see 40 CFR 131.10) describes regulatory requirements related to designated uses for surface waters. One of these requirements requires states to conduct a *Use Attainability Analysis* (UAA) when there is an attempt to designate a use that is not capable of supporting a balanced fish and other aquatic life community or when a new use will result in less stringent criteria than a previously designated use. Historically, Wisconsin has relied in periodic revisions to NR 104 and the public rulemaking process to make such changes. Several benefits may be realized by developing and implementing formal UAAs with EPA and Fish & Wildlife Service involvement, including: a) streamline decision making and more timely revisions to use designations; b) increased consistency in decision making where appropriate, and 3) a more effective public input process into the designation or re-designation of Wisconsin surface waters.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 104 Uses and designated standards and secondary values

- 6. Impaired Waters 303(d) Listing & De-listing Criteria:** Effective water quality management is dependent upon thorough and meaningful assessment of lakes, rivers, and streams. Water bodies that are not meeting their designated use are identified through monitoring and are included on Wisconsin’s 303(d) list of “impaired” waters that is submitted in April of even numbered years to U.S. EPA. Conversely, impaired waters that are supporting their designated use are eligible to be removed from the 303(d) list. Decision-making criteria are needed to help streamline this process and to increase consistency throughout the state. This activity is closely connected with the Assessment Methodology projects.

Related Rule(s): To Be Determined

- 7. Whole Effluent Toxicity (WET):** In December 2000, U.S. EPA objected to Wisconsin procedures used to determine the *reasonable potential* for whole effluent toxicity associated with wastewater effluents. Whole effluent toxicity tests are performed by placing fish and other non-fish aquatic organisms in wastewater effluent. Scientists can determine examine the effects of wastewater effluent on the health of the test organisms and determine the risk to fish and other aquatic life that live in rivers, streams, and lakes. EPA has argued that Wisconsin’s procedures are less stringent than federal procedures and have indicated that changes must be made to be consistent with federal requirements or wastewater permits will not be valid. This initiative would require changes in Administrative Rules and could result in more limitations in WPDES permits than are currently required.

Related Rule(s): NR 106.08 Determination of the necessity for whole effluent toxicity testing requirements and limitations
 NR 106.09 Whole effluent toxicity data evaluation and limitations

- 8. Bacteria Surface Water Quality Standards:** The pathogen indicator applicable to Wisconsin lakes, rivers, and streams is currently fecal coliform*. In 1986, U.S. EPA published revised federal surface water quality criteria for bacteria, adopting an *E. coli* criteria. Wisconsin was in the process of updating its fecal coliform surface water quality criterion to adopt the 1986 federal criteria for *E. coli* when EPA began a re-evaluation of its 1986 criteria to seek a different, defensible pathogen indicator species that will be reliable in protecting public health. As soon as EPA has new criteria available, Wisconsin will need to pursue revisions to NR 102 and possibly NR 210 as it relates to disinfection of wastewater. It is anticipated that EPA’s efforts will be available sometime in 2012.

*In the open waters of the Great Lakes, EPA took action to overpromulgate Wisconsin’s standards and the applicable criteria is *E. coli*.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 210 Sewage treatment works

9. Blue-Green Algal Toxin Surface Water Quality Criteria: Certain species of blue-green algae (also known as Cyanobacteria) can produce different types of toxins that can be harmful to humans and animals (i.e., fish, dogs, swine, cattle). These toxins are produced naturally during the annual growing season and pose the greatest risk when an algal population reaches "bloom" conditions - often indicated by floating green mats or large scum layers that resemble spilled paint. When these algal cells are swallowed, the toxins may be released into the digestive system and cause life-threatening damage to internal organs and/or the central nervous system. In some cases, simply coming in contact with the cells in the water can cause skin rashes and respiratory problems for hyper-sensitive people. The World Health Organization has lead international efforts to study the toxicity of algal toxins and has recommended cell density thresholds that can be used to provide public health advice. Working in collaboration with the Department of Health & Family Services, a comprehensive review of the toxicity of specific algal toxins should be initiated to determine if surface water quality criteria should be calculated for the protection of humans and domestic animals.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 105 Surface water quality criteria for toxic substances
 NR 809 Safe drinking water
 NR 140 Groundwater quality

10. Turbidity Water Quality Standard: Turbidity is a measure of cloudiness in water, which can be caused by soil erosion, wastewater discharge, snowmelt, and stormwater runoff. More specifically, turbidity describes the optical condition of water when suspended particles scatter and absorb light rays instead of transmitting them in straight lines through the water column. Less light penetration often results in fewer rooted plants which yields less protective in-water habitat for fish and other aquatic life. Turbidity is measured in a number of ways, including suspended solids, Secchi depth, Secchi tube depth, and *nephelometric turbidity units* (NTUs), which describe the amount of light-scattering occurring in water. The presence of turbidity and the resulting reduction in transmitted light may adversely affect aquatic ecosystems and other beneficial uses of water bodies.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
 NR 151 Runoff Management
 NR 809 Safe drinking water
 NR 140 Groundwater quality

11. Dissolved Oxygen Water Quality Criteria: Wisconsin’s minimum water quality criteria for dissolved oxygen (DO) were developed in the early 1970’s and have not been updated. Since that time, several challenges to the appropriateness of the DO criteria have been made in formal and informal reviews of WPDES permits for wastewater treatment facilities. Most often the challenges surround the question of whether or not the DO criteria are adequately protective of threatened and endangered fish and other aquatic life species. Maintaining adequate concentrations of DO is vitally important for supporting fish, invertebrates and other aquatic life. Any effort to review the

applicability of DO criteria would need to consider the multiple use designations currently a part of NR 102 and any revisions that may be promoted in association with the Assessment Methodology Project.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 104 Uses and designated standards and secondary values
 NR 212 Waste load allocated water quality related effluent limitations
 NR 151 Runoff Management

12. 5/10 BOD Policy: In order to prevent dissolved oxygen from dropping below the applicable criteria, the Department has required some WPDES permit holders to achieve biochemical oxygen demand (BOD) effluent limitations of 5 mg/L and 10 mg/L for summer and winter, respectively. Though current regulations sometimes require levels below 10 mg/L in the summer, water quality biologists have questioned whether these low levels are necessary in all cases for protection to fish and other aquatic life species.

In addition, the methodology for calculating BOD limits is based on small stream models that were prepared for Wisconsin streams in the 1980s. The methodology – referred to as the “26-lb. Method” is guidance available to staff who calculate effluent limitations. This guidance needs to be evaluated to determine if there are alternatives that should be considered on a case-by-case basis and whether or not the 26-lb. method should be codified.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 210 Sewage treatment works
 NR 212 Waste load allocated water quality related effluent limitations
 NR 809 Safe drinking water
 NR 140 Groundwater quality

13. Nitrogen Surface Water Quality Criterion: EPA water quality criteria guidance requires all states to develop nitrogen criteria as well as phosphorus criteria. (See discussion above on phosphorus criteria.) The stream studies mentioned in the phosphorus criteria discussion did not result in clear scientific thresholds or breakpoints to use as a basis for nitrogen criteria development. Currently, DNR regulates nitrogen only as a toxic substance through implementation of surface water quality standards for ammonia. However, nitrogen also acts as a *nutrient* for many plant species and can contribute to nuisance plant and algal growth in surface waters. The result of these nuisance conditions may be depletions of dissolved oxygen or very extreme pH conditions – neither which support a balanced fish and aquatic life community. A review of nitrogen as a nutrient may result in additional surface water quality criteria to complement numeric criteria for phosphorus – the other nutrient associated with nuisance conditions in lakes, rivers, and streams.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 210 Sewage treatment works
 NR 809 Safe drinking water
 NR 140 Groundwater quality

14. Pesticide Water Quality Standards: New data on the toxicity of pesticides and pesticide metabolites (i.e., breakdown products) to humans, fish, and other aquatic-dependent life is being generated continuously. In addition, new pesticides are being brought to market regularly, many which have no published state or federal water quality criteria. In conjunction with the Departments of Health and Family Services and Agriculture, Trade and Consumer Protection, DNR should review

its current criteria for pesticides to determine which, if any, need to be updated. A comprehensive review should also be initiated to identify which pesticides and metabolites need to be evaluated in surface waters and which should have water quality criteria developed to ensure adequate protection of humans, fish, and other aquatic life.

Related Rule(s): NR 105 Surface water quality criteria for toxic substances
 NR 151 Runoff Management
 NR 809 Safe drinking water
 NR 140 Groundwater quality

15. Methylmercury Surface Water Quality Standard: U.S. EPA published human health criteria for methylmercury in January 2001. In 2006, EPA also published criteria guidance for methylmercury in fish tissue. Methylmercury is the toxic form of mercury in water that can bioaccumulate in fish and humans. Because the EPA criteria are based on fish tissue concentration data, it is probable that this effort would require the development of a translator mechanism. Such a translator would be needed to determine the potential impact to humans when that available methylmercury data are obtained through the collection of fish to support Wisconsin’s fish consumption monitoring program.

Related Rule(s): NR 105 Surface water quality criteria for toxic substances
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
 NR 809 Safe drinking water
 NR 140 Groundwater quality

16. Mixing Zones: Mixing zones are limited areas associated with point source discharges in which water quality standards may be exceeded. The area associated with these zones varies according to the types of pollutants and the type of protection warranted (i.e., acute, chronic, etc...). As a part of the federal Great Lakes Water Quality Initiative of 1995, EPA requires states to eliminate mixing zones altogether for certain bioaccumulative pollutants. To be consistent with federal law, Wisconsin must revise its mixing zone provisions to eliminate such mixing zones.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
 NR 212 Waste load allocated surface water quality related effluent limitations

17. Biocriteria: The vast majority of Wisconsin’s surface water quality criteria are either chemical (i.e., toxic substances), or physical (i.e., temperature). Those criteria are established to ensure that biological communities are not adversely impacted. The decision criteria on what constitutes an impact are often related to whether or not aquatic organisms are killed or their reproduction or growth is compromised in a laboratory setting. There are no corresponding criteria about the population of aquatic life in an actual receiving stream. The Clean Water Act allows for these types of criteria – commonly known as *biocriteria* – and EPA is strongly encouraging states to develop them and include them in state-specific water quality standards. Using biological data currently available and to be collected in the future, DNR could develop numeric biocriteria that would correlate with the assessment of the myriad of designated uses in lakes, rivers, and streams.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters

- NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
- NR 151 Runoff Management
- NR 216 Storm Water Discharge Permits

18. General Review of Variances in NR 104: Federal law allows variances to surface water quality standards under certain conditions. State law also allows variances to standards as they pertain to the imposition of effluent limitations in a WPDES permit (See s. 283.15(5)(b), Wis. Stats.). In either case, all surface water quality standards and associated variances to those standards are reviewed each permit term to determine if the conditions for granting the variance continue to be applicable. The variances that have been documented in Chapter NR 104 of the Wisconsin Administrative Code should be reviewed on a case-by-case basis to determine whether or not they should remain in effect. Examples of the type of variance that needs to be reviewed include:

- a. Fecal coliform thresholds of 1,000 cfu/mL for several water bodies in Southeastern Wisconsin as compared to the statewide standard of 400 cfu/mL;
- b. Water body specific standards that apply to a physical feature like a dam that no longer exists such as the variance(s) for the Milwaukee River to the North Avenue Dam;
- c. Less stringent criteria for dissolved oxygen for the portion of the Flambeau River near Park Falls and a portion of the Wisconsin River near Rhinelander; and
- d. A segment-specific non-continuous hydrologic classification for Newton Creek near Superior.

Related Rule(s): To be determined

19. Implementation of Narrative Standards: NR 102.04(1) contains provisions for surface water quality standards commonly referred to as “narrative standards”. These standards are intended to address water quality problems that objectionable to the human senses such as odor, unsightliness, taste, etc. and that generally interfere with aquatic life in a surface water. Although implementation of these standards through WPDES permit terms and conditions is possible, sustainable permit conditions must be supported by reasonable scientific evidence. The Department could create criteria that more carefully define the basis for permit decisions based on narrative standards to remove ambiguities or varying interpretations of whether a discharge needs to be regulated to attain these standards.

- Related Rule(s):
- NR 102 Water quality standards for Wisconsin surface waters
 - NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

20. Application of Standards to Nonpoint Sources and Storm Water: Existing requirements or programs may, in many instances, be insufficient to attain or maintain surface water quality standards. Current rules do not provide specific mechanisms to determine how nonpoint sources and storm water must be controlled. In some instances, point sources are required to meet permit effluent limitations, and nonpoint or storm water sources which may be having a greater effect on water quality, are not being regulated. Revisions to administrative rules are needed that will effectively obligate pollutant reductions from nonpoint sources when it is probable that imposition of point source controls alone will not positively affect receiving water quality.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters

- NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
- NR 212 Waste load allocated water quality related effluent limitations
- NR 809 Safe drinking water
- NR 140 Groundwater quality

21. Chlorides Implementation Rule Revisions: In 2000, DNR adopted surface water quality standards and implementation rules for chlorides in point sources. Since their adoption, these rules have been used in developing limitations in permits to achieve progressive reductions in the levels of chlorides discharged to surface waters. The rules intent is to reduce chloride discharges through implementation of source reduction measures, a process that has not been overwhelmingly successful in practice. A review of the current methods for determining chloride limitations and evaluating source reduction is needed based on the experience gained to this time.

- Related Rule(s):
- NR 105 Surface water quality criteria for toxic substances
 - NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
 - NR 809 Safe drinking water
 - NR 140 Groundwater quality

22. Wasteload Allocations: NR 212 contains BOD wasteload allocations for the Fox and Wisconsin Rivers. These allocations were based on industrial and municipal wastewater treatment plant loadings using production and design data from the early 1980s. Since that rule was adopted, several of the pulp and paper mills have closed, changed ownership, changed production processes or otherwise modified their operations such that the basis for the allocations may no longer be fair and equitable. Additionally, municipal wastewater loadings have increased due to population increases. A review of the allocation formulae should be undertaken to determine whether changes to the allocations of BOD for these rivers (or segments thereof) is appropriate or needed. Other changes in the rule relating to transfers of allocation or allocations of reserve capacity also are in need of evaluation.

- Related Rule(s): NR 212 Waste load allocated surface water quality related effluent limitations

23. NR 106.10 Exemption for Certain Substances: NR 106.10, Wis. Adm. Code, contains a provision that exempts certain additive substances from being included in WPDES permits for noncontact cooling water outfalls if the substance is added at a concentration similar to that added to drinking water supplies. This provision is included in the rule to allow the Department to treat such discharges similarly to how we would treat noncontact cooling water discharges which use municipal water for cooling purposes. U.S. EPA has identified this provision as inconsistent with federal regulations and has objected to permits issued with this provision. The exemption must be modified or removed from the rule to overcome U.S. EPA objections.

- Related Rule:
- NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters
 - NR 809 Safe drinking water
 - NR 140 Groundwater quality